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NOTES ON ORCHIDS FROM SOUTH CENTRAL AFRICA

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ABSTRACT

A new variety of *Habenaria* is described. *Tridactyle teretifolia* Schltr. is considered to be synonymous with *T. tridentata* (Harv.) Schltr. and *T. filifolia* (Schltr.) Schltr. is reinstated as a species separate from *T. tridentata* (Harv.) Schltr..

UITTREKSEL

NOTAS OOR ORGIDIEË VANAF SUID-SENTRAAL AFRIKA

'n Nuwe *Habenaria* variëteit word beskryf. *Tridactyle teretifolia* Schltr. word beskou as 'n sinoniem vir *T. tridentata* (Harv.) Schltr. en *T. filifolia* (Schltr.) Schltr. word heringestel as 'n soort afsonderlik van *T. tridentata* (Harv.) Schltr.

Habenaria (sect. *Multipartitae*) **praestans** Rendle in J.B. **33**: 293 (1895).

var. **umbrosa** Williamson, var. nov. a varietate typica caule gracili, inflorescentia laxa, floribus paucis, labello lateralibus lobis filamentis paucis, crescens in umbrosi sylvis humidis differt.

Typus: Zambia, Lusaka, *G. Williamson 1867* (holotypus, SRGH) (Fig. 1).

ZAMBIA: Central Province: Refunsa, Feb. 1964, *Morze 160* (K); 5 km south of Serenje in perennial wet floor of relict rain forest, Feb. 1968, *Williamson 761* (SRGH); 7 km west of Lusaka in *Syzygium* forest, Feb. 1969, *Williamson 1381* (SRGH); 6 km west of Lusaka on wet forest floor, Feb. 1970, *Williamson 1867* (SRGH, holo.); same locality one week later in adjacent forest, *Williamson and Drummond 1868* (SRGH); same locality, Feb. 1971, *Williamson 2051* (SRGH); 4 km south of Serenje in swamp forest, Feb. 1971, *Williamson 2053* (SRGH); near Serenje in swamp forest, Feb. 1972, *Williamson 2215* (SRGH).

MALAWI: Northern Region: Base of Mafinga Mtns., near Chisenga Rest House in wet gallery forest beside stream, Feb. 1970, *Williamson and Drummond 1946* (SRGH).

This new variety of *H. praestans* Rendle (Fig. 1) unlike the typical variety (Fig. 2) varies very little over its range. It only occurs on the floor of dark wet relict forest whereas the typical variety is a plant of open upland and montane grasslands. The new variety has a relatively lax inflorescence with

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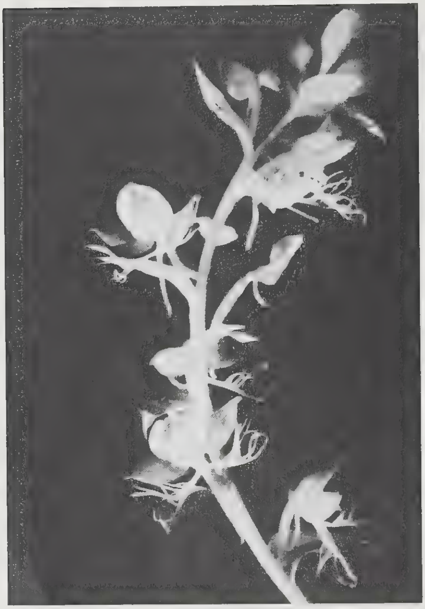


FIG. 1.
Habenaria praestans var. *umbrosa*, × 1/2. Photo of a plant collected in swamp forest, Baluba headwaters, north of Ndola, Copperbelt, Zambia.

fewer flowers. The flower bracts are more prominent and leaf-like and always longer than the flowers. The flowers are generally smaller in all dimensions with the lateral lobes of the labellum held at right angles to the middle lobe. The lateral lobe filaments are always fewer. The spur is much shorter than the labellum midlobe. In the new variety the staminodes are not always stalked as they are in typical *H. praestans*. In *H. praestans* var. *umbrosa* the flowers are also more luminescent especially the white of the petals, labellum and anther-connective which might be in keeping with a plant adapted to dark, dank forest conditions.

Tridactyle tridentata (Harv.) Schltr, in Engl. Bot. Jahrb. **53**: 603 (1915); Summerh. in K.B. **1948**: 287 (1948); Harrison in Epiph. Orc. S. Afr.: 83 (1972). Type: Repub. of S. Africa, Natal in Kranskloof on jutting rocks, alt. 300 m, fl. Dec. Jan. 1862, *J. Sanderson 562* (TCD, holo.) Figures 3 and 4.

Angraecum tridentatum Harv. in Thes. Cap. **2**: 6 (1863); Rolfe in F-C. **5**.3: (1912).

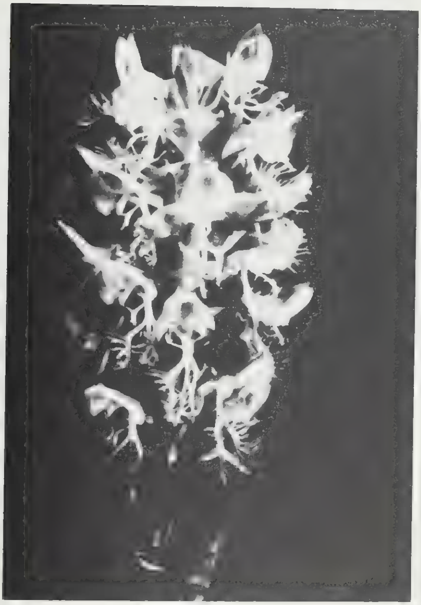


FIG. 2.
Habenaria praestans var. *praestans*, × $\frac{1}{3}$. Photo of a plant collected in open montane grassland, Nyika Plateau, Zambia.

A. bolusii Rolfe in F.C. **5**.3:73 (1913). Type: Zululand, near Eshowe, Maxwell Herb. Bolus No. *6319* (BOL, holo.!).

Tridactyle teretifolia Schltr. in Swd. Rhod. Kongo Exped. (1911–12): 251 (1916), syn. nov. Type: Zambia (North Eastern Rhodesia), North. Prov., Mbala (Abercorn), Nov. 1911, *R. E. Fries 1273* (UPS, holo.) Fig. 4,N.

T. bolusii (Rolfe) Schltr. in Engl. Bot. Jahrb. **53**: 603 (1915) (in obs.).

Angraecum hislopii Rolfe in K.B. **1920**: 130 (1920). Type: *A. Hislop 67* (K, holo.!).

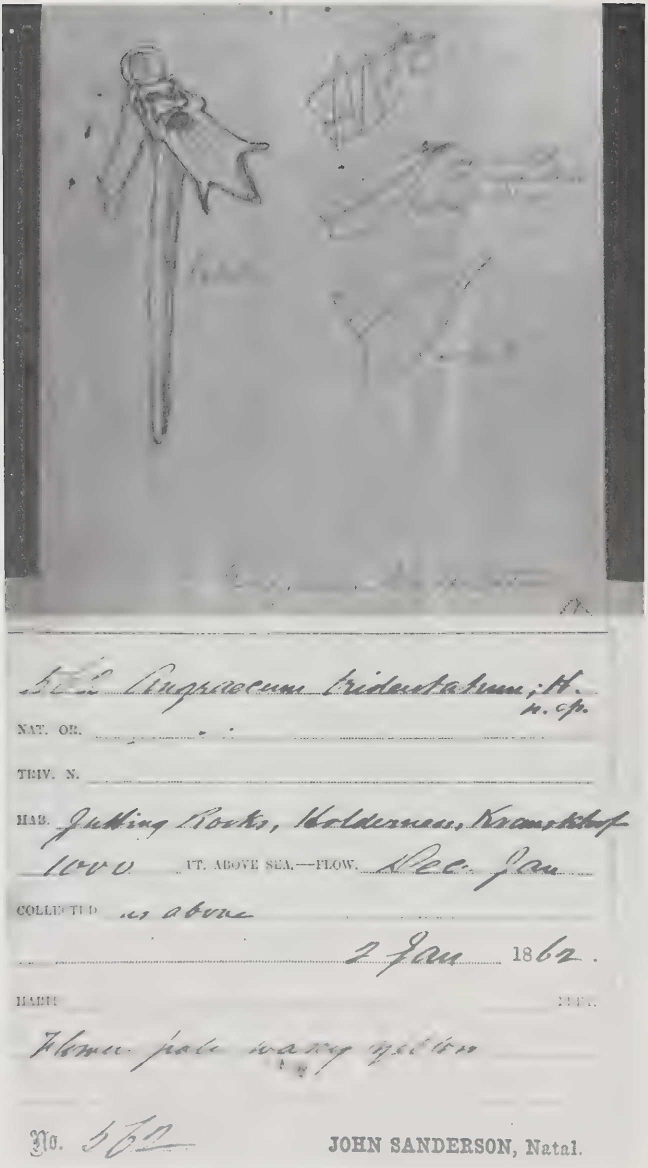
MATERIAL EXAMINED

ZAÏRE: Shaba (Katanga), Lubumbashi (Elizabethville) very common on trees, Nov. 1923, *C. W. V. Hirschberg 6* (K); Kundelungu Plateau, Shaba, *Malaisse 4835* (K).

TANZANIA: Musoma Distr., 1 mile from Mara Riv., growing on *Parinari* in open woodland, *P. J. Greenway 10244* (K).

MALAWI: Scarp road from Blantyre to Chiwawa, epiphyte on tall trees, Dec. 1974, *D. Westwood 701* (SRGH).

MOZAMBIQUE: Vila de Manica, frequent on scattered trees, Dec. 1956, *E. Harrison 70* (BOL).



[illegible] Angraecum tridentatum; H. n. sp.

NAT. OR.

TRIV. N.

HAB. Jutting Rocks, Holderness, Krantzkloof

1000 FT. ABOVE SEA.—FLOW. Dec. Jan

COLLECTED as above

2 Jan 1862.

HABIT

Flower pale waxy yellow

No. 562

JOHN SANDERSON, Natal.

FIG. 3.

Drawing by Harvey from the type sheet of *Tridactyle tridentata* in TCD. Photo by kind permission of Professor D. A. Webb, Trinity College, Dublin.

ZAMBIA: West. Prov.: Solwezi, common epiphyte in dry bush, Nov. 1958, *W. D. Holmes 023* (SRGH); Mwinilunga Distr., Matonchi, Nov. 1969, *Williamson and Drummond 1739* (SRGH); Mwinilunga, live plants, March 1969, *Williamson 1603* (K); Barotse Prov.: 10 km east of Mongu, Nov. 1959, *Drummond and Cookson 6355* (SRGH); North Prov.: Mbala (Abercorn), Nov. 1861, *W. Moroney 253* (SRGH); Cent. Prov.: Lusaka, *J. H. Morze 28* (SRGH); Kapiri Mposhi, Sept. 1967, *G. Williamson and B. Simon 588* (SRGH); Kanono Hill, on rocks: sheet 1,5 km south of Serenje on *Brachystegia* trees: sheet 2, Sept. 1968, *Williamson 1127* (SRGH); same locality, live plants, Feb. 1969, *Williamson 1502* (K).
ZIMBABWE: Salisbury Distr., Dombashawa, growing on masasa trees, Nov. 1947, *H. Wild 2252* (SRGH); Chimanimani, Oct. 1954, *J. S. Ball 394* (SRGH); Gutu Distr., 1967, *D. Mackintosh 4* (SRGH); Charleswood on road to Chimanimani Nat. Park, Nov. 1973, *J. S. Ball 1371* (SRGH); Mevumodzi River, March 1974, *A. J. Beasley 218* (SRGH); Salisbury Distr., Great Dyke Pass on road to Banket, on trees on hillside, *J. Renz, R. Grosvenor and R. B. Drummond 11335* (SRGH).
REPUB. OF SOUTH AFRICA, NATAL: Eshowe, Zululand, Dec. 1936. *J. Gerstner 1865* (BOL); near Eshowe, Zululand, Dec. 1893, *Maxwell 6319* (BOL); Port Edward, Dec. 1977, *J. Stewart G. H. S. 261236* (SRGH).

Summerhayes in African Orchids 18 in K.B. **1948**: 287 (1948) placed all the West African rain forest fine terete leafed Tridactyles in synonymy with the South African savanna terete species *T. tridentata*. At this stage he maintained *T. teretifolia* as a distinct species.

From an extensive examination of live and herbarium material plus a comparison of the drawing of the type of *T. tridentata* by Harvey on the type sheet at Trinity College, Dublin (Fig. 3) and a recent drawing of *T. teretifolia* by Mr Lars Jonsson from the type preserved in spirit in Uppsala, (Fig. 4, N), it is evident that *T. teretifolia* must be placed in synonymy with *T. tridentata*.

The taxon known as *T. bolusii* (Rolfe) Schltr., although displaying very fine leaves with average 2 mm across and somewhat smaller flowers than the type of *T. tridentata* nevertheless falls well within the range of *T. tridentata*. The labellum of *T. bolusii* on the type sheet is 3 mm long and has rounded entire auricles. The lobing of the lip is well towards the lower third of the labellum.

Experience of live plants of the taxon known as *T. tridentata* from North West Zambia and examination of the type of *T. filifolia* (Fig. 5, J) from Kew, plus a cross section of herbarium material from West, East and Central Africa shows that these plants should once again be separated from *T. tridentata* and placed under the oldest name *T. filifolia*.

Tridactyle filifolia (Schltr.) Schltr. in Beih. Bot. Centralbl. 36, **2**: 144 (1918) nomen reinstat. Type: Cameroun (Kamerun), Songa, Sept. 1899, *R. Schlechter 12791* (B, holo †, K, iso.!) Fig. 5, J.

Angraecum filifolium Schltr. in West Afr. Kautschuk-Exped.: 284 (1900) and in Engl. Bot. Jahrb. **38**: 21 (1905).

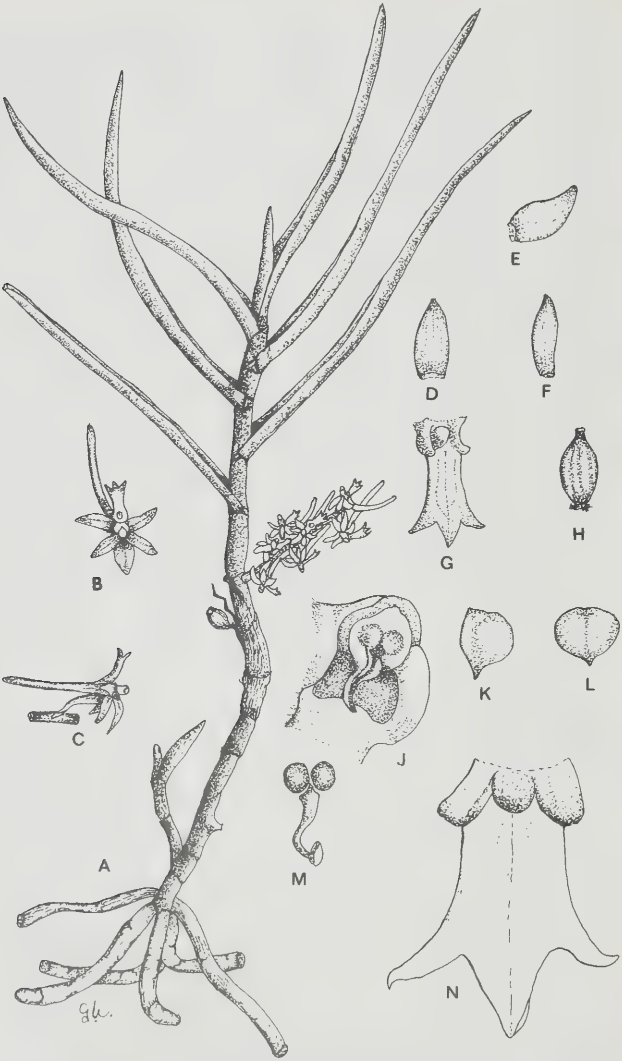


Fig. 4.

Tridactyle tridentata. A, habit, × $\frac{2}{3}$; B–C, flower, × 1; D, dorsal sepal, × 3; E, lateral sepal, × 3; F, petal, × 3; G, labellum, × 4; H, capsule, × 2; J, androclinium, × 14; K–L, anther cap, × 14; M, pollinarium, × 10, A–M, from *G. Williamson and R. B. Drummond 1739* (SRGH); N, labellum, × 8, from a drawing by Lars Jonsson from the type collection of *Tridactyle teretifolia* Schltr. *R. E. Fries 1273* (UPS). *All magnifications are approximate.*

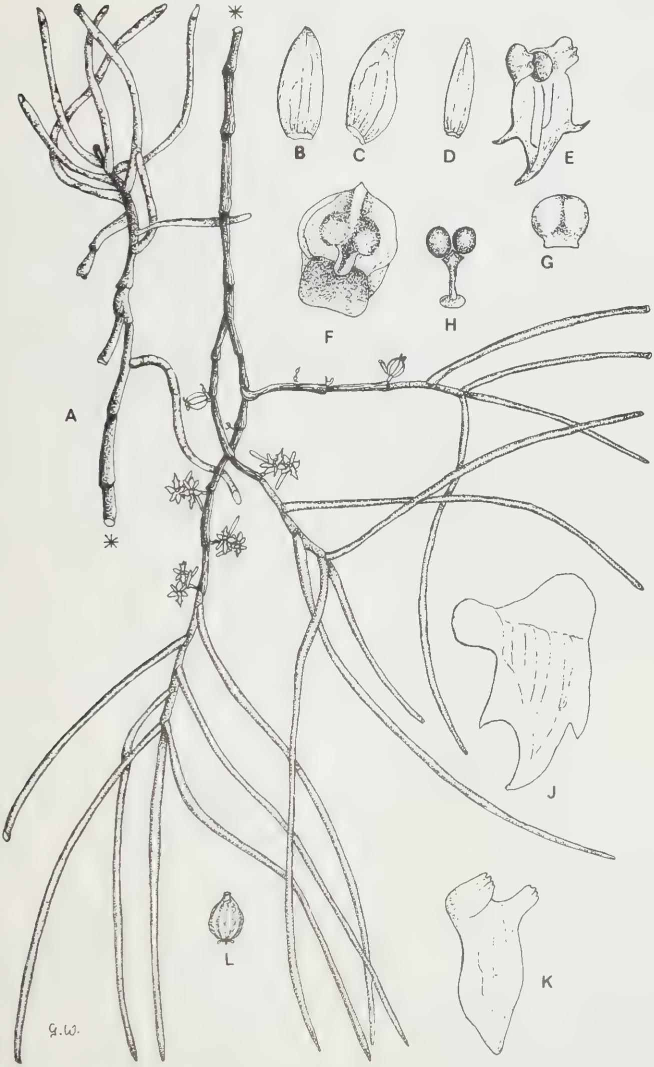


FIG. 5.

Tridactyle filifolia. A. habit, × $\frac{2}{3}$; B, dorsal, sepal, × 8; C, lateral sepal, × 8; D, petal, × 8; E, labellum, × 10; F, androclinium, × 25; G, anther cap, × 25; H, pollinarium, × 25; all from *W. D. Holmes 0243* (SRGH); J, labellum, × 15, from a tracing of a drawing by V. S. Summerhayes from the isotype of *T. filifolia* R. Schltr. *12791* (K); K, labellum, without lateral lobes, × 14, from *D. Johansson 591* (K). All magnifications are approximate.

Tridactyle tridentata (Harv.) Schltr. var. *subulifolia* Summerh. in K.B. **1948**: 287 (1948), syn. nov. Type: Uganda, Businigiro, April 1943 and 1944, *Eggeling 5277* (K, holo. !).

MATERIAL EXAMINED

GUINEA (Guynee): I.F.A.C. Daloba Futa Djallon on *Parinari excelsa*, Aug. 1962, *P. Adames 332* (K); Amedzofe, forest at 2 000 feet—pendulous epiphyte, Oct. 1967, *J.C. Bowling GC 36594* (K).
SIERRA LEONE: Several miles from Kameron on Karumbonla road, North. Prov., hanging epiphyte in fringing forest, Nov. 1965, *J.K. Norton SL 3330* (K).
LIBERIA: Nimba Mtns. 600 m, Sanniquelle Distr., Aug. 1969, *D. Johansson 591* (K).
NIGERIA: Gnitsha on Port Harcourt road, Aug. 1961, *B.N. Okigbo* (K).
CAMEROUN (KAMERUN): Songa, Aug. 1899, *R. Schlechter 12791* (iso., K).
ZAÏRE: Garambo National Park, in gallery forest, Garambo River, Nov. 1951, *H. de Saeger 1345* (K).
UGANDA: Budonga Forest, Oct. 1935, *W. J. Eggeling 2235* (K).
KENYA: North Kavirondo Distr., Kakemega–Kaimosi road, Kakamega Forest, Oct. 1953, *R.B. Drummond and J.A. Hemsley 4794* (K, SRGH).
ZAMBIA: West. Prov.: Mwinilunga Distr., epiphyte in evergreen forest patch, Nov. 1960, *W.D. Holmes 0243* (SRGH); 80 km south of Mwinilunga on Kabompo road in *Cryptosepalum* forest, July 1963, *J.P. Loveridge 748* (SRGH); same locality and date, *T.B. Edwards 603* (SRGH).

The numerous characteristics that distinguish *T. filifolia* from *T. tridentata* are summarised below:

	T. filifolia (Fig. 5)	*T. tridentata* (Fig. 4)
Habit	Pendulous, hanging in masses. Stems slender up to 500 mm long and usually not more than 2 mm in diameter, heavily branched.	Upright unless plant lank. Miniature form on Muchinga in Zambia grows downwards. Stems robust rarely more than 300 mm long and up to 5 mm in diameter and not as frequently branched.
Leaves	Up to 160 mm but only 2 mm or less at base. Very numerous forming a matted mass.	Leaves rarely more than 100 mm long but up to 5 mm across at base. Not as numerous.
Inflorescences	Numerous, up to 8 mm long, seldom with more than 4 flowers.	Fewer, up to 15 mm long or more with up to 8 flowers.
Sepals	Usually not more than 2,4 mm long but can be as small as 1,6 mm.	Never shorter than 2,5 mm but can be up to 4,2 mm long.

Petals	1,3 to 2 mm long with entire apex.	2,8 mm in the smallest forms but can be up to 4 mm long with occasional serrated apex.
Labellum	Overall length 1,5 mm to 2,9 mm, minutely toothed towards middle third, central lobe wider and longer than side lobes; side lobes occasionally vestigial (Fig. 5,K); auricles large compared with size of labellum, usually crenate, dentate or serrated. Spur up to 7 mm long.	Overall length from 3 mm to 6 mm, always triparte towards apex with more or less triangular lobes; auricles always smooth, smaller compared with length of labellum than in *T. filifolia*. Spur always longer than 7 mm, up to 15 mm.
Column	Approximately 0,8 mm long.	Up to 2 mm long.
Rostellum	Rather straight and blunt.	Curved forwards and acute.
Stipes	Short and straight.	Long and curved to fit the rostellum. This feature is well illustrated in Bolus Icon. Orch. Aust. Afr. T.53.
Habitat	Closed canopy equatorial rain forest and relict gallery forest lining streams.	Open savanna woodland and rock face in full sun.
Distribution	Equatorial West Africa, East and Central Africa to North West Zambia.	More towards Eastern Africa from Kenya southwards to Eastern Cape Province in Repub. of S. Africa.

The two species meet in the Mwinilunga and Copperbelt Dist. of Zambia. Although growing adjacent to each other they never move out of their respective habitats.

Two taxa which Summerhayes put into synonymy with *T. tridentata* have not been included in this paper because they have not been investigated:

T. goetzeana (Kraenzl.) Schltr. in Engl. Bot. Jahrb. **53**:602 (1915) as stated by Kraenzlin to have "Sepala petalaque 1,5 mm longa, labellum vix longius, calcar 5–6 mm longum." These measurements would fall into the range of *T. filifolia*.

T. linearifolia (De Wild.) Schltr. in Beih. Bot. Centralbl. 36,**2**:144 (1918). Investigation of plants at (K) which Summerhayes placed within the range of this taxon viz. *Eggeling 2235*, match very well with specimens of *T. filifolia*.

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